

## Immunization Rates among the Elderly in Rhode Island

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Pneumonia and influenza are major health problems that can lead to hospitalization and death, especially among the elderly. In 2002 in Rhode Island, together they caused 311 deaths, 279 (90%) among persons ages 65 and older, and 4,584 hospitalizations, 3,083 (67%) among the elderly.<sup>1</sup> Many cases of flu and pneumonia are preventable through immunization. For influenza, annual immunizations are necessary; for pneumococcal disease, a single immunization provides lifetime immunity if administered at age 65 or older. Because of the potential health benefits of these immunizations, Rhode Island has adopted Healthy Rhode Islander objectives for 2010 that target increased rates of both immunizations among the population ages 65 and older.<sup>2</sup> (Table 1) This analysis presents trend data related to the immunization rates for influenza and pneumococcal disease among the elderly in Rhode Island and comparative data for nearby states and the US.

**Table 1. Healthy Rhode Islanders 2010 Objectives for Adult Immunization**

Objective	Rhode Island Baseline, 1999	Rhode Island Target, 2010
Increase the proportion of adults ages 65 and older who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease		
Influenza vaccine	75.8%	95%
Pneumococcal vaccine	56.9%	75%

**Methods.** The Rhode Island Department of Health conducts the annual Behavioral Risk Factor Survey (BRFS), a telephone survey of a monthly sample of Rhode Island adults concerning health-related risks and behaviors. In several years, it has included questions on two adult immunization practices: (1) whether the respondent had been immunized for influenza at any time during the past 12 months and (2) whether the respondent had ever been immunized for pneumococcal disease. These two questions have been analyzed for the following years: 1993, 1995, 1997, 1999, 2000 (July-December only), 2001, and 2002. All analysis was based on respondents ages 65 and older, for which sample sizes varied between 327 and 792 over the years included. Comparable data from the BRFS for other New England states and the United States median were obtained from the national Behavioral Risk Factor Surveillance System website.<sup>3</sup>

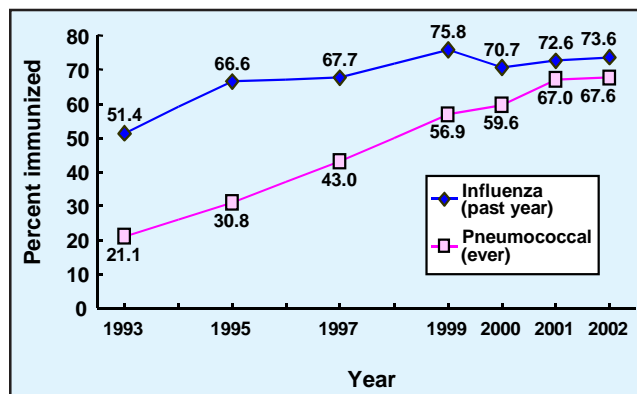
Data on influenza immunizations among patients ages 65+ and employees in long-term care institutions were obtained from annual summary reports submitted to the Rhode Island Department of Health by infection control nurses in the state's licensed facilities.

These required reports include immunization rates for patients by age group (for both influenza and pneumococcal vaccine) and for employees of the facilities (for influenza only). Statewide aggregates were produced by the Department's Office of Communicable Diseases.

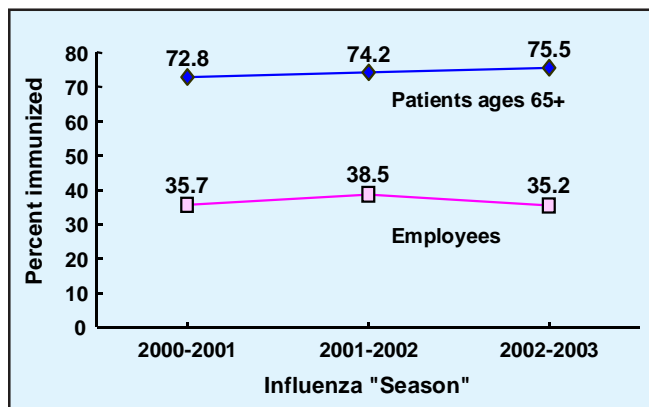
**Results.** Over the ten-year period from 1993 to 2002, the rates of immunization for both influenza and pneumococcal disease increased substantially among Rhode Island's elderly population. For influenza, the increase occurred during the early part of the period, rising from just over half the population in 1993 to above three-quarters in 1999, after which the rate has remained relatively stable through 2002. (Figure 1) For immunization against pneumococcal disease, the rate has increased consistently over the entire period, from just one in five elderly residents being immunized in 1993 to over two-thirds in 2001 and 2002.

Among the elderly residing in long-term care institutions, the rate of immunization for influenza has been similar to that for the non-institutionalized elderly in recent years and has shown a slight increase over the three most recent flu "seasons" for which data are available. (Figure 2) However, the rates of immunization for employees of those facilities, whose work brings them into regular contact with the most vulnerable patient population, is much lower, ranging between 35% and 39%.

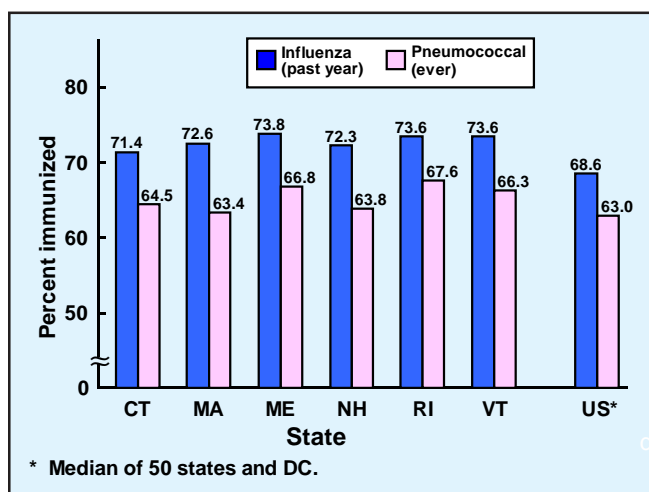
Rhode Island's immunization rates compare favorably, in general, with those of the other New England states for both influenza and pneumococcal. For influenza, immunization rates in 2002 ranged narrowly from 71.4% (Connecticut) to 73.8% (Maine). (Figure 3) Rhode Island's rate of 73.6% is near the top of the range. For pneumococcal immunization, the spread is somewhat broader, with Massachusetts being lowest at 63.4% and Rhode Island highest at 67.6%. For both immunizations, the New England states are all well above the respective national median rates for the 50 states and District of Columbia.



**Figure 1.** Immunization rates for influenza (past 12 months) and pneumococcal disease (ever), by year, ages 65 and older, Rhode Island, 1993-2002.



**Figure 2.** Immunization rate for influenza (past 12 months), patients ages 65 and older and employees in long-term care facilities, by influenza "season", Rhode Island, 2000-2003.



**Figure 3.** Immunization rates for influenza (past 12 months) and pneumococcal disease (ever), by state, ages 65 and older, New England states and United States median, 2002.

**Discussion.** Over the past ten years, much progress has been made in expanding the number of elderly in Rhode Island who are immunized against influenza and pneumococcal disease.<sup>4</sup> The progress in immunizing against pneumococcal disease has been particularly consistent. Most persons need to be immunized only once to attain lifetime protection, so the achieved immunization rate is cumulative and has increased every year. Influenza immunization is required annually, so high rates of immunization require a

substantial effort to maintain. Since 1999, influenza rates among the elderly in Rhode Island have been stable.

In order to achieve the ambitious goals set by Healthy Rhode Islanders 2010 for these immunizations, more progress is needed. Research studies and surveys consistently show that the most powerful source of motivation for patients to be immunized is a recommendation from a healthcare provider. Physicians in Rhode Island should encourage their elderly and high-risk patients to be immunized for influenza and pneumococcal disease according to the guidelines for these immunizations.<sup>5</sup>

The influenza immunization rates presented for healthcare workers are lower than desired. From these findings comes another critical challenge for adult immunization – increasing the rates for healthcare workers in general and for those who provide direct patient care in particular. These workers are often caring for the highest risk patients; therefore immunizing them protects not only the healthcare worker, but also the vulnerable patients they care for. Physicians have a key role in this effort as well, both in getting immunized themselves and in supporting and encouraging the immunization of all employees of health care facilities who have any patient contact; this includes dietary and custodial staff as well as health care workers.

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## References

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3. National Center for Chronic Disease Control and Prevention, Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Online Prevalence Data at <http://apps.nccd.cdc.gov/brfss/>
4. Beardsworth AM, Maxim R, Bertrand T. The power of coalition – improving RI's adult immunization rate – The Ocean State Immunization Collaborative. *Med & Health/RI* 2004;87:72-4.
5. See, for example, *Summary of Adult Recommendations* at <http://www.health.ri.gov/disease/communicable/flu/providers.htm>

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